Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

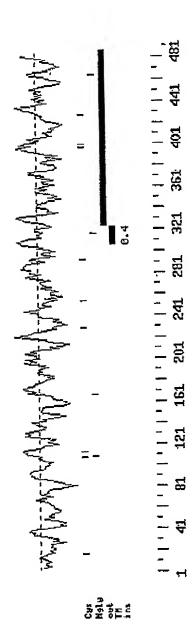
#### Sheet 1 of 24

| CACGCGTCCGCTCTGCTGCTCTAGTGTTGACTTTGGCGTCTCAGGTGATECATGACTTTTTAAAGCCAATATAATTTCT   | eso in No.1           |
|---|-----------------------|
| TACTCCTTCTGGASTGCTGCTTCGCTTTCACTCAGTCTTTTTTTTTT   | _                     |
| M K V T G F F Q G V T D S K Q C F N TCTA ATG ARA GTC ACG GGC CCT CCC CAG GGA GTT ACA GAC TCC ATG CAA TGC TTC ART TSEO ID NO:3-> | 18 SEQ ID NO: 2<br>54 |
| D Q W P L S N T R S S E H I K E V M V E GAT CAG TGG CCT TTA TCT AAC ACC AGG AGC AGC GAG CAC ATA AAA GAG GTC ATG GTT GAG         | 32<br>114             |
| L G K F E R K E F K S S S L Q D G H T K CTG GGG AAG TTT GAA AGG AAG GAG TTT AAA AGT TCC AGT TTG CAA GAT GGA CAT ACA AAA         | 58<br>174             |
| H E E À P T H L N S F L K K E G L T F N ATG GAG GAA GGA CCT ACG CAT CTT AAT TCA TTT CTT AAG AAA GAA GGA TTG ACC TTC AAC         | 72<br><b>23</b> 4     |
| R K R K W E L D S Y F I H L W W S P L T ASS ANN NGN NNN TGG GAN TIG GAC AGC TAC CCC ATT ATS CTC TGG TGG TCC CCG CTG ACG         | 98<br>.254 •          |
| G E T G R L G Q C G A D A C F F T I N R GGG GAG ACT GGG AGG TTA GGC CAA TGT GGA GCA GAT GCT TGT TTC TTC ACC ATC AAC CGG         | 118<br>354            |
| T Y L H H H H T K À F L F Y G T D F N I ACC TAC CTC CAT CAT CAT ATG ACC ANA GCA TTC CTC TTC TAT GGT ACT GAC TTT AAC ATA         | 138<br>414            |
| D S L P L P R K A H H D W A V F E E E S GAT AGC TTA CCT CTG CCT CGG AAA GCC CAT CAT GAC TGG GCT GTT TTT CAT GAA GAG TCC         | 158<br>474            |
| F K N N Y K L F H K P V I T L F N Y T A CCG AAA AAC AAT TAT AAG CTC TTT CAT AAA CCA GTG ATT ACC TTG TTC AAC TAG ACT GCC         | 178<br>534            |
| T F S R H S H L P L T T Q Y L E S I E V ACG TTC AGC AGC AGT TCC CAC TTG CCA CTA ACT ACC CAA TAC TTG GAG AGC ATT GAA GTC         | 198 ·<br>594          |
| L K S L R Y L V P L Q S X W K L R 'K R L CTG ARG TCA CTC CGA TAC CTA GTT CCT TIG CAG TCC ARA RAC ARG CTT AGA RAR AGA CTT        | 218<br>654            |
| A P L V Y V Q S D C D P P S D R D S Y V GCT CCG CTG GTG TAT GTA CAG TCA GAC TGT GAC CCA CCA TCA GAC AGG GAC AGC TAT GTT         | 23E<br>· 714          |
| R E L M T Y I E V D S Y G E C L R N K D CGC GAG CTG ATC ACT TAC GAG GIC GAT TCC TAT GGT GAA TGT TTA CGA AAC AAA GAC             | 258<br>77 <b>4</b>    |
| L P Q Q L K N P X S K D X D G F Y R I I CTC CCT CAG CAG CTG AAA AAT CCA GCC TCT ATG GAT GCC GAT GGC TTT TAT AGG ATC ATT         | 276<br><b>23</b> 6    |
| A Q Y K F I L A F E N A V C D D Y I T E GCA CAG TAT AAG TIT ATC CTA GCT TIT GAG AAT GCA GIT TGT GAT GAC TAC ATC ACT GAG         | 292<br>894            |
| K F W R P L K L G V V P V Y Y G S P S I AAG ITC TGG AGG CCA CTG AAA CTG GGG GTA GTC CCT GTA TAT TAC GGA TCC CCC AGC ATC         | 318<br>954            |
| T D K L P S N K S A I L V S E F S H P R ACA GAC TGG CTT CCA AGT AAC AAA AGT GCT ATT CTT GTA TCA GAA TTT TCT CAC CCC AGG         | 338<br>1014           |
| E L A S Y I R R L D S D D R L Y E A Y V GAA CIG GCA AGA TAC AGA CGA CGA CTG GAT TCT GAT GAC AGA TTG TAT GAG GCC TAT GTA         | 358<br>1074           |
| E W K L K G E I S N Q R L L T A L R E R GAA TGG AAG CTG AAG GGT GAG ATC TCT AAC CAS CGA CTT CTG ACA GCT CTC AGG GAA CGG         | 378<br>1134           |
| K W G V Q D V N Q D N Y I D A F E C M V ANA TGG GGA GTG CAA GAC GTC AAC CAG GAC AAT TAC ATC GAT GCA TTT GAG TGT ATG GTG         | 398<br>1194           |
| C T K V W A N I R L Q E K G L P P K R W TGC ACC AAG GTG TGG GCT AAT ATC AGG CTT CAG GAA AAG GGC TTA CCA CCC AAA AGA TGG         | 418 ·<br>1254         |
| E A E D T H L S C P E P T V F A F S P L GAG GCA GAA GAT ACC CAC CTG AGT TGC CCA GAG CCC ACA GTG TTT GCT TTC TCA CCA CTC         | 438<br>1314           |

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Sheet 2 of 24

| R   | T   | g   | P   | L   | S   | S                                     | L             | R           | E   | M           | H   | I   | s   | agc | F   | E   | Q   | s   | K   | 458         |
|-----|-----|-----|-----|-----|-----|---------------------------------------|---------------|-------------|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| CGG | ACT | CCA |     | TTG | VČC | TCT                                   | TTG           | CGA         | GAG | ATG         | TGG | ATT | TCC | agc | TIT | GAA | AA  | TCC | AAG | 1376        |
| K   | E   | A   | Q   | A   | L   | r                                     | W             | L           | V   | d           | r   | n   | Q   | n   | F   | s   | s   | Q   | E   | 478         |
| Aaa | GX\ | GCC | CAG | GCA | CTÀ | agg                                   | TGG           | CTG         | GTT | Gat         | agg | aat | CAA | Aac | TTT | TCA | TCT | ÇAA | GAG | 1434        |
| TTT | TGG | GGC | CTA | GTA | TTC | X<br>Aag<br><del>C</del> SE(<br>Caga) | gac<br>N CI ( | TGA<br>个E:O |     | <i>KEAF</i> | AAÄ |     |     |     |     | •   |     |     |     | 497<br>1451 |



IG. 2

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# Sheet 4 of 24

|       |     | *->lsdaflrllwrekllGllitvppLllaiaawigleeikewkksplyL   | SEQ ID NO:16 |
|-------|-----|--|--------------|
| 80090 | 35  | + + +++ ++e + ++++ +g e + +1 VMVELGKFERKEF-KSSSLQDGHTKMEEAP-THLN-  | 67           |
|       |     | SNDHELdVpiLlilSqapqGSrfptleenrillwtwpFndrgaPvppsrc + L ++ ++ r l +i lw+ p + g++ + C  | 107          |
| 80090 | 68  | SFLKKEGLTFNRKRKWELDSYPIMLWWSPLTGETGRLGQC   | 107          |
| 80090 | 108 | slsydntarcrltanRselesAdavlFNAGHhrDlskgppmdlppeft<br>+ + c+ t nR l++ a lF D + + +l<br>GADACFFTINRTYLhhHMTKAFLFYGTDFNIDSL-PL | 143          |
|       |     | qvrarAedaDavllayednaaaaeaLatdfpRppgQpwVwaSmESPsnsg<br>pR+ w ++ ESP n   |              |
| 80090 | 144 | PRKAHHDWAVFHEESPKNN-   | 162          |
|       |     | RFAVPGFKiNVLNglqilldgyfNwtlSyradsDafhpYGylepltakar + ++ +fN t ++ +s yle  |              |
| 80090 | 163 | YKLFHKPVITLFNYTATFSRHSHLPLTTQYLESI   | 196          |
|       |     | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$  |              |
| 80090 | 197 | -EVLKSLRYLVPLQS-KNKLRKRLAPLVyvqSDCDPPSDRDSYVRELMTY   | 244          |
|       |     | lqVDvyGrvanplplksgcskGVelietlsqYkFYLaFENSqheD<br>+ VD yG + + + + + + + + + + + qYkF LaFEN + + D                            |              |
| 80090 | 245 | IEVDSYGEC1rNKDLPQQLKNPASMDadgFYRIIAQYKFILAFENAVCDD   | 294          |
|       |     | YvTEKlWkNAlqagtiPvVLgPsRavyedFvPpksFIhVDDFkSakElAd<br>Y+TEK+W+ l g +Pv+ g s++ ks I V F ++ElA+                              |              |
| 80090 | 295 | YITEKFWR-PLKLGVVPVYYG-SPSITDWLPSNKSAILVSEFSHPRELAS   | 342          |
|       |     | YLlyLdknptAYLDmLYENPLNTLDGKAYFYQDLSFKKILDFFKTILEND<br>Y++ Ld +   |              |
| 80090 | 343 | YIRRLDSDDRL  | 353          |
|       |     | TIYHKYseYFeWRedlrvrlfswdalrVlEydegfCrvCrllqkapd<br>Y Y eW ++ +++rl++ lr ++ + d   |              |
| 80090 | 354 | YEAYVEWKLKGEIsnqRLLTALRERKWGVQD  | 384          |
|       |     | llelSryktipnlakWFq<-*  |              |
| 80090 | 385 | +++ +n+ +F+<br>VNQDNYIDAFE 395   |              |

FIG. 3

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

## Sheet 5 of 24

| Query: | 89  | PI-MLWWS-PLTGETGRLGQCGADACFFTINRTYLHHHMTKAFLFYGTDFNIDSLPLPRK 146 P+ ++WWS ++ OCG C T R+ + LFYG++ PLPR                     |
|--------|-----|---|
| Sbjct: | 40  | PVELVWWSRDMSWNYDVQRQCGIHTCRITNKRSRRPWARGVLFYGSNIKTGDFPLPRN 97 680 ID 20:17  |
| Query: | 147 | AHHOWAVFHEESPKNNYKLFHKPVITLFNYTATFSRHSHLPLTTQYLESIEVLKSLRYLV 206<br>H WA+ HEESP+N + +K + F++T+TFSR+S+LPLTT YL S E L S Y V |
| Sbjct: | 98  | EHQIWALLHEESPRNTPFVSNKEFLRHFHFTSTFSRYSNLPLTTMYLPSGEALTSKDYYV 157  |
| Query: | 207 | PLQSKNKLRKRLAP-LVYVQSDCDPPSDRDSYVRELMTYIEVDSYGECLRNKDLPQQLKN 265<br>K+K R + +V++QSDCD S R+ YV+ELM ++ +DSYG CLRN+DLP++ K+  |
| Sbjct: | 158 | TFDGKSKYGYRPSTSVVFLQSDCDTMSGREDYVKELMKHLPIDSYGSCLRNRDLPERQKD 217  |

## FIG. 4

| Query:          | 221 | LVYVQSDCDPPSDRDSYVRELMTYIEVDSYGECLRNKDLPQQLKNPASMDADGFYRIIAQ 280 + +V S+ +P S R Y ++L +++VD YG R K LPQ +++            |
|-----------------|-----|---|
| Sbjet:<br>No:18 | 62  | VAWVVSNWNPNSARVRYYQQLQKHLKVDVYGRSHRGKPLPQGNMMETLSR 111 SEQ 1D   |
| Onery:          | 281 | YKFILAFENAVCDDYITEKFWR-PLKLGVVPVYYGSPSITDWLPSNKSATLVSEFSH 336<br>YKF LAFEN++ DYITEK WR L+ G VPV G PS ++ +P + + I V +F |
| Sbjct:          | 112 | YKFYLAFENSMHPDYITEKLWRNALEAGAVPVVLG-PSRVNYERFIPPD-AFIHVDDFQS 169  |
| Query:          | 337 | PRELASYIRRLDSDDRLYEAYVEWKLKGEIS 367 P+ELA Y++ LD + Y Y+ WK + ++   |
| Sbjct:          | 170 | BKETYKATKETDKNHYVATKATKAKKENBIN 300   |

### Sheet 6 of 24

| Query:          | 90  | IMLWWSPLTGETGRLGQCGADACFFTINRTYLHHHMTKAFLFYGTDFNIDSLPLPR I+LW P +CG C T +R+ H KAF + D ++ L                  | 145 |        |
|-----------------|-----|---|-----|--------|
| Sbjct:<br>No:19 | 129 | ILLWNEPSLVNAPAHVECGCLVTTSRSHNDKAFDAVVISADHPYSFEGLG-GV   | 180 | SEQ ID |
| Query:          | 146 | KAHHD-WAVFHEESPKNNYKLFHKPVITLFNYTATFSRHSHLPLTTQYLESIEVLK K H D +AV+ + P ++ + P+ TL FN T T+ S L T Y ++       | 300 |        |
| Sbjct:          | 181 | KLHPDFYAVYAAKKPLSSTQNPLTNFTLPPFNLTMTYRLDSQLIWTDYYFSHTNLAR   | 237 |        |
| Query:          | 201 | SLRYLVPLQSKNKLRKRLAPLVY-VQSDCDPPSDRDSYVRELMTYIEVDSYGECLRNKDL<br>L++ SK+ A V ++S+ S L Y+ + L                 | 259 |        |
| Sbjct:          | 238 | RLKWF-RAPSKSFADDMPATTVLRLESEILKKSRLAVYLVYEVNEKTLPESLY   | 289 |        |
| Query:          | 260 | PQQLKNPASMDA-DGFYRIIAQYKFILAFENAVCDDYITEKFWRPLKLGVVPVYYGSPSI<br>++L+ A +DA D Y F+L FE + C DY+ + + +VPV G ++ | 318 |        |
| Sbjct:          | 290 | MEELRKYADLDAHDNCLGTDDHYHFMLIFETSACPDYVPPQMSMAMDKLLVPVLIGGGNL  | 349 |        |
| Query:          | 319 | TOWLPSNKSAILVSEFSHPRELASYIRRLDSDDRLYEAYVEWKLKGEISNQRLLTA T+ +PS+ S I +F+ P++L +++ L ++ Y Y W +L+ L +        | 374 |        |
| Sbjct:          | 350 | TNLVPSH-SYISSQDFATPQDLIIHLKDLANNQLEYRRYFWWHSIYRLRKTSQPYCALCS  | 408 |        |
| Query:          | 375 | LRERKWGVQDVNQDNY 390<br>L ++ G +V O +Y  |     |        |
| Sbjct:          | 409 | LIQQSPGGHEVRQRSY 424  |     |        |

# Sheet 7 of 24

| AGC      | rgcc:           | rttc/       | :AGA( | TCT      | いなこれ       | c).G(    | CASC     | h<br>Atg | n<br>Aat | V<br>CIG   | s<br>TCC | F        | a<br>GCT | H<br>CAC | L<br>CTC | CYC<br>H        | F<br>TTT    | A<br>GCC | G<br>GGX |                    | SEQ ID NO:5<br>SEQ ID NO:4 |
|----------|-----------------|-------------|-------|----------|------------|----------|----------|----------|----------|------------|----------|----------|----------|----------|----------|-----------------|-------------|----------|----------|--------------------|----------------------------|
| G        | Y<br>TAC        | L           | P     | 5        | Þ          | 5        | Q        | 小SE      | ₹<br>ÇŒŞ | YO: 6<br>Х | →<br>T   | I        | I        | P        | A        | L               | . <b>L</b>  | v        | λ        | 32<br>96           |                            |
|          | C<br>TGC        |             |       |          |            | eje<br>V |          |          |          |            |          | I<br>ATI |          |          | r<br>CTC |                 |             |          | A<br>CCT | 52<br>156          |                            |
|          | aaa<br>K        |             |       |          |            |          |          |          |          |            |          |          |          |          | S<br>AGC |                 |             | D<br>GAT | CTC      | 72<br>216          |                            |
|          | CTC             |             |       |          |            |          |          |          |          |            |          |          | Y<br>TAC |          |          | S<br>Ast        | V<br>GTT    | r<br>TGG | D<br>GAT | 92<br>276          |                            |
| L<br>CTA | <u>දෙ</u><br>දෙ | W<br>TGG    |       |          |            |          | TCC      |          |          |            |          | I<br>ATC |          |          | zec<br>C |                 |             |          | ng<br>Z  | 112<br>336         |                            |
| S<br>AGC | CTG             | YCY<br>Z    |       |          |            |          | GCC      | AAA      | GTA      | ZGC        | TTC      | ATG      | TAT      |          |          |                 |             |          | XXG      | 132<br>396         |                            |
| CYY      | ©TG             | <b>≯</b> GT |       |          | AAC        | TAC      |          | ATC .    | TGG      |            |          | CIG      |          |          |          | TGG<br>TGG      | t<br>XCT    | GIG<br>A | А<br>ССТ | 157<br>456         |                            |
| yec<br>S | C1C<br>T        |             |       | CIG      |            | GAA      |          | TIC      | TII      |            | AÇC      |          | አሜር      | CAT      |          | E<br>Gli        | cc1<br>G    | GIG      | gyy<br>E | 172<br>516         |                            |
| n<br>atg | TCC             |             | GIG   | GAT      | GTA        | ·CCK     | GCT      | GTG      | GCI      | GAA        | GNG      |          | ATG      | TCG      |          | TIT             |             | AAG      |          | 192<br>576         | . :                        |
|          | CCY             | <b>C</b> TC | CIG   | GCA      | TII        | GGC      | CIT      | CCY      | TIĄ      | TIT        | TIT      | GCC      | AGC      |          | TAT.     | TIC             | <b>1</b> GG | aga,     | GCI      | 636                |                            |
|          | GĀC             | CAA         | ICT   | AAA      | AAA.       | CCX      | GGA      | ACT      | NAG      | yci        | CAA      | AXT      | CII      |          | AAC      | CAG             | ATA         | CGC      | TCX      | 232<br>696         |                            |
|          | CAA<br>W        |             | XCX   | CIC      | YLC        | CTG      | cts      | AGC      | ATT      | ecc        | YZÇ.     | Arc      | TCT      |          | CIC      | TIE             | TĠĢ         | CIC      | ccc      | 252<br>756         |                            |
| GAX      | TGG<br>F        | CTA         | CCI   | TCG      | CIG        | īĢG      | GTA      | TGG      | CYI      | CIG        | aag      | GCT      | GCX      |          | CCG      | CCC             | ÇÇA         | CCA      |          | 272<br>816         |                            |
| GGT      | TTC             | ata         | CCC   | CIG      | TCT        | CYY      | GTC      | TIG      | ХIG      | TIT        | ICC      | ATC      | īCĪ      | TCA      | GCA      | aat             | CCT         | CIC      | ATT      | 252<br>87 <i>E</i> |                            |
| 111      | CTT<br>K        | GIG         | atg   | TCG<br>T | GXX.       | GAG      | TTC<br>S | )<br>AGG | CAA      | GGC        | TIG      | AAA      | GGI      | GTA<br>A | tge      | <del>አ</del> አኢ | TGG         | λīg      | ATA<br>G | 312<br>936<br>332  |                            |
| YCC      | XÄX<br>P        | AXX         | CCT   | ÇCA      | ACT        | G⊅C      | TCA      | GAG      | TCT      | CAG        | gaa      | XCX      | CCX      | GĈT<br>P | GGC      | XXC             | TCX         | GAG      | GGT      | 996<br>352         |                            |
| CIT      | ÇĈT<br>S        | CYC         | AAG   | CIC      | CCA        | TCT      | CCY      | GAA      | 1CC      | CCY        | GCX      | TCC      | λτλ<br>· | CCY      | GAA      | AAA             | GAG         | KKA      | ``       | 1056               |                            |
| AGC      | TCT             | CCC         | TCC   | TCT      | GGC        | AAA      | GGG      | AAA      | ACT      | CYC        | axg      | GĈA<br>S | gag      | TTK      | ccc      | ATC             | CII         | cçı      | GĂC      | 372<br>1116        | · · .                      |
| gta<br>P | CYC             | <b>CAC</b>  | TTT   | 1CC      | CAT        | Gas      | agg      | GAC      | YCY      | GIC        | ccr      | TCT      | GTA      | CĂA<br>R |          | AÅG<br>E        | AGC<br>K    |          | añc<br>A | 392<br>1176<br>412 |                            |
| CCT      | YÇY             | GAT         | TGT   | GGT      | <b>AGC</b> | TCA      | CGT      | XXC      | TCA      | GCG        | TGG      | TAÇ      | CCC      | AÂA<br>I | ACT      | GAA             | AAA         | TCA      | GCA      | 1236               |                            |
| tet      | TGC             | CCT         | λλG   | ACG      | Gλλ        | ATC      | CAI      | 7ÇA      | YCY      | IIC        | TAC      | TIC      | CAG      | ATA      | CIG      | CTT             | CTA         | GCA      | ATT      | 129£               |                            |
| cic      | AGA             | MC          | AGA   | A)C      | CAC        | YIC      | TCA      | CGT      | TĪC      | TČA        | ACT      | AÂX      | čů       | cic      | CIT      | TTA             | GGA         | CIG      | cxc      | 1356               |                            |

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

Sheet 8 of 24

H K F R F S V F P \*
CAC AMG TTC MGA TIT TCT GTC TAT CCT TAX
CAC AMG TTC MGA TIT TCT GTC TAX

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Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

Sheet 9 of 24

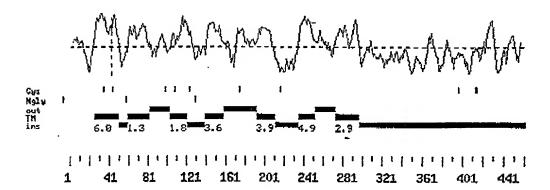


FIG. 8

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

Sheet 10 of 24

\*->GNlLVilvilrtkklr..tptnifilnLavADLLflltlppwalyyl seo ID NO:20
GNl Vi ++l + ++++ + +ilnL++ADL +1l+ p+ ++++
52874 40 GNLCVIGILLHNAWKGkpSMIHSLILNLSLADLSLLLFSAPIRATAY 86

vggsedWpfGsalCklvtaldvvnmyaSillLtaIS<-\*
+ W +G ++Ck + ++ ++m a l++++ +
52874 87 SK--SVWDLGWFVCKSSDWFIHTCMAAKSLTIVVVA 120

#### FIG. 9a

\*->kvvillvWvlalllslppllfswvktveegngtlnvnvtvClidfpe sEQ ID NO:21 +Cl+d p + v++++W++a ll lP +fs+ +++e+ + WSVLVAIWTVASLLPLPEWFFSTIRHHEGVE------MCLVDVPA 180 52874 142 estasvstwlrsyvllstlvgFllPllvilvcYtrIlrtlr..... ++++ + 1 1++F 1Pl++ +++ +r + ++++++++ 181 VA----EEFMSMFGKLYPLLAFGLPLFFASFYFWRAYDQCKkrgtktqnl 226 52874 ......kaaktllvvvvvFvlCWlPyfivllldtlc.lsiimsstCele +++ +++++ +11 + ++ +1+W1P +++1+ ++ + 227 rnqirskQVTVMLLSIAIISALLWLPEWVAWLWVWHLKAAGP----- 268 52874 rvlptallvtlwLayvNsciNPiIY<-\* + ++ ++ ++ +L ++ S' NP+I 269 APPOGFIALSQVLMFSISSANPLIF 293 52874

#### FIG 9b

Query: 253 EWVAWLW-VWHLKAAGPAPPQGFIALSQVLMFSISSANPLIFLVMSEEFREGLKGVW--- 308

EW WL+ V+H F +S VL + S+ NP+++ +MS FRE K V

Sbjct: 12 EWTEWLYDVYHY------FHMVSGVLFYLSSAINPILYNLMSHRFREAPKNVLSSL 61 SEQ ID MO:22

Query: 309 --KWMITKKP-PTVS 320 +W KP P+ S Sbjct: 62 CKQWHSRHKPRPSFS 76

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

**Sheet 11 of 24** 

| •       |   |    |
|---------|---|----|
| _       | 208 YFWRAYDQC-KKRGTKTQNLRNQIRSKQVTVMXXXXXXXXXXWLPEWVAWLWVWHLKAA 266     | Ä. |
| A110777 | JUS ALMBAAIKIC-KKKGIKIONIKUOIKPKOAIAMVYVYVYVYVVVADEENAUUDNAUITIIIIAA EA | _  |
|         |   |    |

WLP W+ W ++A YF C +KR +T+ + R+ +VT+M

160 YFKIILKMCQRKRQMQTKRTATKKRTTKVTIMGLAIVISYTHCWLPFWIVQ---WSIEAN 216 SEG ID NO:23 Sbjct:

267 GPAPPQGFIALSQVLMFSI----SSANPLIFLVMSEEFREGLKGVWKWMITKKP 316 Query: S+ANP +++ +S+ F+ K + K + T KP F++

217 LFEKSKYLLFCCTHFAFALQYINSAANPFLYVFLSDSFQ---KNIQKLLRTAKP 267 Sbjct:

### FIG. 11

| On to your | 16 PSDSODWRTIIPALLVAVCLVGFVGNLCVIGILLHNAWKGKPSMI-HXXXXXXX 69 |
|------------|--|

+ L+ F N+ + G++ W K +++ H T++ +L PSD+ +

115 PSDAPETYSDTVLSVVLGFYALLLIAFASNILLAGVIKKYRWGMKMALLFHLCVTGALL 174 SEQ ID NO:24 Sbjct:

70 XXXXXXXXAP----IRATAYSKSVWDLGWFVCKSSDWFIHTCMAAKSLTIVVVAKVCF- 124 Query: A ++ S+V L F + W H A + ++ +A CF

175 SITNTLHLLASGYHLLKRQRNSSTV--LQSFAIIA--WVDHFIGFALLIFVMYLAIFCFK 230

125 MYASDPAKQVSI-HNYTIWSVLVAIWTVASLLPLPEWFFSTIRHHEGVEMCLVDVPAVAE 183 Query:

Y ++ + + + +Y +++V ++ W +A L+ FF H + C+ V AV+

231 FYWNNKTRSIEWGRSYVLYAV-ISTWVIAFLIAGFTAFFQCDSHINSQDQCIQIVCAVSN 289 Sbjct:

184 EFMSMFGKL 192 Query:

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Sbjct:

F ++F +L

+ +

290 IFSAIFTEL 298 Sbjct:

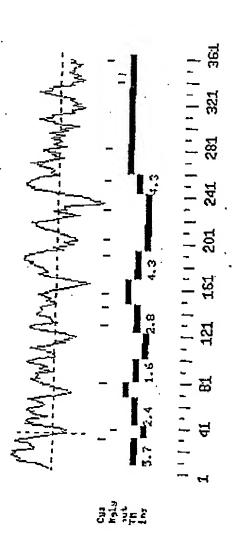
Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

**Sheet 12 of 24** 

| TACTCACTATAGGGCTCGAGCGGCCGGGCAGGTCTAGAATTCAGCGGCCGCTGAATTCTAGGCTGCTCTGGGCCT  | SEQ ID NO:7   |  |  |  |  |  |  |  |  |  |  |  |
|--|---------------|--|--|--|--|--|--|--|--|--|--|--|
| TOCTAGCCGGCTCTGCACCTCCCAGAAGCCGTGGGCACGCCGCTCAGCTGCTCCATCGCCTCACTTTCCCAGGCTCGCG  |               |  |  |  |  |  |  |  |  |  |  |  |
| М G F G E A L  | 7 SEQ ID NO:8 |  |  |  |  |  |  |  |  |  |  |  |
| CCCGAAGCAGAGCCATGAGAACCCCAGGGTGCCTGGCGAGCCGCTAGCGCC ATG GGC CAG GCG CTG TSEQ ID NO: 9->                                  | 21            |  |  |  |  |  |  |  |  |  |  |  |
| TO A G L L V M V L A V A L L S N A L · V L   | 27            |  |  |  |  |  |  |  |  |  |  |  |
| CTG GCG GCT CTT CTG GTG ATG GTA.CTG GCC GTG-GCG CTG CTA TCC AAC GCA CTG GTG CTG  | 81            |  |  |  |  |  |  |  |  |  |  |  |
| L C C A Y S A E L R T R A S G V L L V N CTT TGT TGC GCC TAC AGC GCT GAG CTC CGT ACT CGA GCC TCA GGC GTC CTC CTG GTG AAT  | 47<br>141     |  |  |  |  |  |  |  |  |  |  |  |
|  |               |  |  |  |  |  |  |  |  |  |  |  |
| L S L G H L L L A A L D M P F T L L G V CTG TCG CTG GGC CAC CTG CTG CTG GGG GCG CTG GAC ATG CCC TTC ACG CTG CTC GGT GTG  | 67<br>201     |  |  |  |  |  |  |  |  |  |  |  |
|  | 67            |  |  |  |  |  |  |  |  |  |  |  |
| M R G R T P S A P G A C Q V I G F L D T ATG CGC GGG GGG ACA CGC GGG GCG GGA GGC ATG GGC ATG GGC TGC GGA AGC              | 261           |  |  |  |  |  |  |  |  |  |  |  |
|  | 107           |  |  |  |  |  |  |  |  |  |  |  |
| TTC CTG GCG TCC AAC GCG GCG CTG AGC GTG GCG GCG CTG AGC GCA GAC CAG TGG CTG GCA  | 321           |  |  |  |  |  |  |  |  |  |  |  |
| V G F P L R Y A G R L R P R Y A G L L L  | 127           |  |  |  |  |  |  |  |  |  |  |  |
| GTG GGC TTC CCA CTG CGC TAC GCC GGA CGC CTG CGA CCG CGC TAT GCC GGC CTG CTG CTG  | 381           |  |  |  |  |  |  |  |  |  |  |  |
| G C A W G Q S L A F S G A A L G C S W L  | 147           |  |  |  |  |  |  |  |  |  |  |  |
| GGC TGT GCC TGG GGA CAG TCG CTG GCC TTC TCA GGC GCT GCA CTT GGC TGC TCG TGG CTT  | 441           |  |  |  |  |  |  |  |  |  |  |  |
| GYSSAFASCSLRLPPERPERP  | 167<br>501    |  |  |  |  |  |  |  |  |  |  |  |
| GGC TAC AGE GCC TTC GCG TCC TGT TCG CTG CGC CTG CCG GAG CCT GAG CGT CGG  |               |  |  |  |  |  |  |  |  |  |  |  |
| R F A A F T A T L H A V G F V L P L A V C GC TTC GCA GCC TTC ACC GCC ACG CTC CAT GCC GTG GGC TTC GTG CTG CCG CTG GCG GTG | 187<br>561    |  |  |  |  |  |  |  |  |  |  |  |
| _  | 207           |  |  |  |  |  |  |  |  |  |  |  |
| L C L T S L Q V H R V A R S H C Q R H D CTC TGC CTC ACC TGG CTC CAG GTG CAC CGG GTG GCA CGC AGC CAC TGC CAG CGC ATG GAC  | €21           |  |  |  |  |  |  |  |  |  |  |  |
|  | 227           |  |  |  |  |  |  |  |  |  |  |  |
| T V T M K A L A L L A D L H P S V R Q R ACT GTC GAC ACC ACC AGT GTG CGG CAG CGC  | 681           |  |  |  |  |  |  |  |  |  |  |  |
|  | 247           |  |  |  |  |  |  |  |  |  |  |  |
| TOC CTC ATC CAG CAG AAG CGG CGC CGC CAC CGC GCC ACC A  | 741           |  |  |  |  |  |  |  |  |  |  |  |
| ATFLICFAFYVMTRLAELV <sup>P</sup>   | 267           |  |  |  |  |  |  |  |  |  |  |  |
| GCG ACC TTC CTC ATC TGC TTT GCC CCG TAT GTC ATG ACC AGG CTG GCG GAG CTC GTG CCC  | 801           |  |  |  |  |  |  |  |  |  |  |  |
| FVTVNAQWGILSKCLTYSKA   | 287<br>861    |  |  |  |  |  |  |  |  |  |  |  |
| THE GITC ACC GITG AND GOD CAG TGG GGC AND CITC AGO ANG TGC CITG NOD TAG AGO ANG GCG                                      |               |  |  |  |  |  |  |  |  |  |  |  |
| V A D F F T Y S. L L R R P F R Q V L A G GTG GCC GAC CGG TTC CGC CAA GTC CTG GCC GGC                                     | 307<br>921    |  |  |  |  |  |  |  |  |  |  |  |
|  | _             |  |  |  |  |  |  |  |  |  |  |  |
| H V H R L L 'K R T P R P A S T H D S S L ATG GTG CAC CGG CTG CTG AAG AAG ACC CCG CGC CCA GCA TCC ACC CAT GAC AGC TCT CTG | 327<br>981    |  |  |  |  |  |  |  |  |  |  |  |
|  | 347           |  |  |  |  |  |  |  |  |  |  |  |
| D V A G H V H Q L L K R T P R P A S T H GAT GTG GCC GGC ATG GTG CAC CAG CTG CTG AAG AGA ACC CCG CGC CCA GCG TCC ACC CAC  | 1041          |  |  |  |  |  |  |  |  |  |  |  |
|  | 364           |  |  |  |  |  |  |  |  |  |  |  |
| ARC GGC TOT GTG GAC ACA GAG ART GAT TOO TGC CTG CAG CAG ACA CAC TGA  | 1092          |  |  |  |  |  |  |  |  |  |  |  |
| GGGCTGGCAGGGCTCATCGCCCCCACCTTCTAAGAAGCCCTGTGGAAAGA (SEQ ID NO:91)  |               |  |  |  |  |  |  |  |  |  |  |  |
|  |               |  |  |  |  |  |  |  |  |  |  |  |

**Sheet 13 of 24** 



Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

#### **Sheet 14 of 24**

|       |     | •   |
|-------|-----|---|
|       |     | *->GNILVilvilrtkklr.tptnifilNLAvADLLflltlppwalyylv seg TO NO:25<br>N+LV+l +++ lr+++ ++++NL++ LL++++ +p++l+ ++ |
| 52880 | 22  | SNALVILCCAYSAELRtrasgvilvnisichtliaaldmpftligvm 68  |
|       |     | ggsedWpfGsalCklvtaldvvnmyaSillLtaISiDRYlAIvhPlryrr<br>g + p + C + ++1d++ l+ +a+S D +1A+ Plry                  |
| 52880 | 69  | RGRTPSAPGACQVIGFLDTFLASNAALSVAALSADQWLAVGFPLRYAG 116  |
|       | i   | rrtsprrAkvvillvWvlalllslPpllfswvktveegngtlnvnvtvCl  |
| 52880 | 117 | r + pr A +++++W +l++s l++++ ++ +C+ RLR-PRYAGLLIGCAWGQSLAFSGAA-LGCSWLGYSSAFASCS 157                            |
|       |     | idfpeestasvstwlrsyvllstlvgFllPllvilvcYtrIlrtlr + p e+ ++ +++ ++ vgF+lPl v++ + +++ r++r++ +                    |
| 52880 | 158 | LRLPPEPERPRFAAFTATLHAVGFVLPLAVLCLTSLQVHRVARshcq 204   |
|       |     | kaaktllvvvvvFvlCW   |
| 52880 | 205 | rmdtvtmkalalladlhpsvrqrcliqqkrrrhRATRKIGIAIATFLICF 254  |
|       |     | <pre>lPyfiv1lldtlc.lsiimsstCelervlptallvtlwLayvNsclNPiI +Py + l +</pre>                                       |
| 52880 | 255 | APYVMTRLAELVPEVTVNAQWGILSKCLTYSKAVADPFT 293   |
|       |     | Y<-*<br>Y   |
| 52880 | 294 | Ŷ 294   |

```
134 SLAFSGAALGCSWLGYSSAFASCSXXXXXXXXXXXAAFTATLHAVGFVLPLAVLCLTSL 193
Query:
             +L F AL SWLG+ +ASC+
                                                FA FT+ HA+ F+L
                                                                 VLC T L
           2 ALTFPATALALSWLGFHQLYASCTLCSRRPDERLRFAVFTSAFHALSFLLSFIVLCFTYL 61 seq id No.26
Sbjct:
         194 QVHRVARSHCQRMDTVTMKALALLADLHPSVRQRCLIQQKRRRHRATRKIGIAIATFLIC 253
Query:
             +V +VAR HC+R+D +TM+ L LL D+HPSVR+RCL +QKRRR RAT+KI
          62 KVLKVARFHCKRIDVITMQTLVLLVDIHPSVRERCLEEQKRRRQRATKKISTFIGTFLVC 121
Sbjct:
         254 FAPYVMTRLAELVPFVTVNAQWGILSKCLTYSKAVADPFTYSLLRRPFRQVLAGMVHRLL 313
Query:
             FAPYV+TRL EL
                              +++ WG+LSKCL YSKA +DPF YSLLR +R+
Sbjct:
         122 FAPYVITRLVELFSTAPIDSHWGVLSKCLAYSKAASDPFVYSLLRHQYRRSCKELLNRIF 181
         314 KR 315
Query:
              R
         182 NR 183 '
Sbjct:
```

Sbjct:

Title: 80090, 52874, 52880, 63497, AND 33425 METHODS AND COMPOSITIONS OF HUMAN PROTEINS AND USES THEREOF

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

147 VYANSCINPIIYNFMNGKYRKAY-WKIFALLKFWGEPLS 184

Application No.: To Be Assigned Docket No.: 381552004400

# **Sheet 15 of 24**

| Query: | 75 TLHAVGFVLPLAVLCLTSLQVHRVARSHCQRMDTVTMKALALLADLHPSVRQRCLI 230   |    |
|--------|---|----|
| Sbjct: | TL VGF++P V+ C L VH + + D + A + 28 TLFIVGFMIPCLVIIVCYACIFLTVHH-QKKKIRNHDNFQIAAAKGSSSSGGGSYMTTTC 86 SEQ ID NO: | 27 |
| Query: | 31 QQKRRRHRATRK-IGIAIATFLICFAPYVMTRLAELVPFVTVNAQWGILSKCL 282<br>+K R R T K + + F IC+ P V+ R+ + N W I S L      |    |
| Sbjct: | 87 TRKAREDRKTTKMLMVVFLCFAICYLPISILNVLKRVFGMFRHSEDNESVYWWHIFSHWL 146   |    |
| Query: | 83 TYSKAVADPFTYSLLRRPFRQVLAGMVHRLLKRTPRPAS 321  |    |

# FIG. 17

| Query: | 171 AFTATLHAVGFVLPLAVLCLTSLQVHRVARSHCQRMDTVTMKALALLADLHPSVR 225 A+ L F +P +V+ C+ + H R H D++ + ++ L L R |
|--------|---|
| Sbjct: | 24 AYVVMLVVAVFFIPFSVMLYSYMCILNTVRHNAVRIH-NHPDSLCLSQVSKLG-LMSLQR 81 SEQ ID NO:28                         |
| Query: | 226 QRCLIQQKRRRHRATRKIGIAIATFLICFAPY-VMTRLAELVPFVTVNAQWGILSKC 281 + + RA I I F +C+ P+ V + L+ + +S C     |
| Sbjct: | 82 PHQMSVDMSFKTRAFTTILILFVGFSLCWLPH\$VYSLLSVFSKHFYYQHNFYEISTCVLW 141                                    |
| Query: | 282 LTYSKAVADPFTYSLLRRPFRQVLAGMVHRLLKRTPR-PAST 322<br>L Y K+V +P Y + FR+ M+ + K P+ P T                  |
| Sbjct: | 142 LCYLKSVFNPIIYCWRIKKFREACLEMMPKTFKILPQVPGRT 183  |

| Query: | 221 hpsvrqrcliqqkrrrhratrkigiaiatflicfapyvmtrlælvpfvtvnaqwgilsk 280  |
|--------|--|
|        | H ++ CL+QQKR+ A+ G+A A +P R F W L                                    |
| Sbjct: | 7 HKIIKAACLVQQKRQEFLASVARGVAPADSPEAPRRSFAGGTWDWEYLG- 55 SEQ ID NO:29 |
| _      |  |
| Query: | 281 CLTYSKAVADPFTYSLLRRPFRQVLAGMVHRLLKRTPRPASTHDSSLDV 329            |
|        | + A+ F Y RR RQ G VH LL P P +S+LD+                                    |
| Shicks | 56 -FASPEEYAE-FQYRRRHRORRRGDVHSLLSNPPDPDEPSESTLDI 99                 |

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

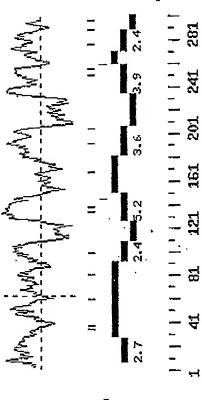
\_\_\_\_\_ Sheet 16 of 24

| TCAT       | الإدران | rccT/ | ATTT( | CAT | GCAGK | SACC | تورح | AGCC( | 5.7.CY | اعتدا      | بعمد     | TCAC | TGAC       | JAGA, | LATC! | STG | SCAG: |              | 3        | 1 si<br>3  |
|------------|---------|-------|-------|-----|-------|------|------|-------|--------|------------|----------|------|------------|-------|-------|-----|-------|--------------|----------|------------|
|            |         |       |       |     |       |      |      |       |        |            |          |      |            |       |       |     |       | <b>↑</b> SI  | EQ ID N  | O:12-      |
| A          | \$      | Ρ.    |       |     |       |      |      |       |        |            |          |      |            | A     |       |     |       | L            |          | 21         |
| GÇC        | İCC     | CGG   | TAT   | GTG | GCA   | GTG  | GGY  | AŢĢ   | AIC    | TTX        | TCX      | СХG  | ACC        | GIC   | ere   | GGA | GTC   | CTG          | GGG      | 63         |
| 5          | F       | s     | v     | L   | L     | H    | Y    | L     | s      | F          | Y        | c    | T          | G     | C     | R   | I.    | R            | s        | 41         |
| AGC        | TIC     | TÇT   | GTT   | CTT | CIC   | ÇAT  | TAT  | CIC   | TCC    | TIT        | TAC      | IGC  | ACT        | G¢\$  | TCC   | AGG | TTA   | AGG          | 1/CC     | 123        |
| T          | D       | L     | I     | v   | ĸ     | Ħ    | L    | r     | v      | Α          | Ŋ        | F    | £          | · д   | Ţ     | R   | ¢     | ĸ            | G        | 61         |
|            | GAT     | TIG   | ATT   | GTT | λλG   | CAC  | CIG  | ATT   | GTA    | <b>GCC</b> | AAC      | TIC  | TTA        | CCT   | CIC   | CGC | TGT   | AAA          | GGA      | 183        |
| ν          | Þ       | 0     | T     | H   | λ     | A    | ¥    | Ģ     | v      | ñ          | Y        | ¥    | L          | N     | A     | L   | G     | c            | x        | 81         |
|            |         |       |       |     |       |      |      |       |        |            |          |      |            |       |       |     |       |              | -        | 243        |
| Ť.         | v       | F     | Y     | L   | ×     | R    | v    | G     | R      | G          | v        | s    | ī          | G     | T     | T   | Ċ     | ۲.           | L        | 101        |
|            |         |       |       |     |       |      | GTG  |       |        |            |          |      |            |       |       |     |       |              | TTG      | 303        |
| s          | v       | P     | Q     | v   | I     | т    | v    | s     | s      | Ŕ          | ×        | 5    | R          | W     | A     | ĸ   | L     | ĸ            | E        | 121        |
| <b>AGT</b> | GTC     | TTC   |       |     |       | AÇG  | GTC  |       |        |            |          |      |            |       |       |     |       |              | GAG      |            |
| ĸ          | A       | P     | ĸ     | Ħ   | v     | G    | F    | s     | v      | Z,         | 7.       | _    | w          | r     | v     | c   | H     | L            | v        | 141        |
|            |         |       |       |     |       |      |      |       |        |            |          |      |            |       |       |     |       |              | GTA      |            |
| N          | T       | I     | F     | P   | ĸ     | Y    | v    | λ     | G      | ŧ.         | w        | N    | ~          | •7•   | N     | ı   | T     | v            | n        | 161        |
|            | ATC     |       |       | _   |       |      |      |       |        |            |          |      |            |       |       |     | _     |              |          | 483        |
| •          | α       | L     | G     | Y   | _     | s    | G    | G     | G      | N          | a)       | T/C  | <b>~</b> . | A     | _     | Ť   | 7     | R            | <b>7</b> | 181        |
| ဏိဒ        |         |       |       |     |       |      |      |       |        |            |          |      |            |       |       |     |       |              | ÇĈA      |            |
| H          | τ.      | Ť.    | s     | F   | F     | Ð    | v    | L.    | _      | ·          | G        |      | ·          | F     | W     | υ   | s     | 5            | S        | 201        |
|            |         | ŤŦ    |       |     |       |      |      |       |        |            | GGG      | ದ್ದ  | ATG        | TTC   |       |     |       |              | TCC.     | 603        |
| H          | 17      | _     | r     | ۲.  | H     | R    | ĸ    | ĸ     | 0      | 70         | v        | ٨    | ¥          | I     | a     | R.  | s     | D            | L        | 221        |
|            | GII     | ZGC   |       |     |       |      |      |       |        |            |          |      |            |       |       |     |       |              | -        | 663        |
| ς.         | Þ       | R     | А     | s   | Þ     | É    | 7.7  | R     | à      | T          | C        | 5    | 1          | L     | I     | ۲.  | v     | S            | T        | 241        |
|            |         |       |       |     |       |      |      |       |        |            | CĂG      | AGC  | ATC        | CTC   |       |     |       |              |          | 723        |
| F          | v       | s     | s     | ¥   | T     | Ť.   | S    | ¢     | 7.     | F          | n        | v    | _          | M     | A     | Ľ   | L     | 'n           | N        | 261        |
|            |         |       |       |     |       |      |      |       |        |            |          |      |            |       |       |     |       |              |          | 783        |
| P          | M       | 5     | L     | L   | Ţ     | N    | T    | Ś     | λ      | 7.         | ĸ        | e    | 17         | С     | F     | P.  | T     | ۳.           | s        | 261        |
|            |         |       |       |     |       |      |      |       |        |            | ATG      | AGT  | GIA        | . IGI | TIC   | CCA | ACT   | CIC          |          | 843        |
| 20         |         | · v   |       | H   | s     | С    | D    |       |        |            | <b>Y</b> |      |            | С     |       | -   | W     |              | R        | 301        |
| ccc        | TII     | GII   | CTC   |     |       |      |      |       |        |            | TAC      | YCC. | TTT        | TGT   | TTI   | GCC | TGG   | . אנג<br>גנג | , AGA    | 201        |
|            | •       |       |       | -   |       |      |      |       |        |            |          |      |            |       |       |     |       |              | •        |            |
| TGX        |         |       |       | •   |       |      |      |       |        |            |          |      |            |       |       |     |       |              |          | 302<br>906 |

 ${\tt CARGATCTCCTARCCTCATCATARACATGTACATTGTATATATTTTCTCATGGTTCAATTGATGACTTACTCTTCTGTG\\ {\tt CCCCAACCTGCCCGGGCGGCTCGAGCCCTATAGTGAGTA}\\$ 

 Title: 80090, 52874, 52880, 63497, AND 33425 METHODS AND COMPOSITIONS OF HUMAN PROTEINS AND USES THEREOF Inventor: Maria A. GLUCKSMANN and Rachel MEYERS Application No.: To Be Assigned Docket No.: 381552004400

**Sheet 17 of 24** 



Cys N918 178 178 178

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

Sheet 18 of 24

1++++FV 63497 236 LILVSTFV 243

| Query: | 36 GCRLRSTDLIVKHLIVANFLALRCKGVPQTMAAFGVRYFINALGCKLVFYLHEVGRGVSI 95 G R R TDL + L + + + L G TM F + CK + YLER+ RG+S+      |          |
|--------|---|----------|
| Sbjct: | 5 GRESKPIDLPIGLLSLVHLMMLLIMGFIAIMDMFMSWGRWDDITCKSLIYLHRLLRGLSL 64 SEQ   | ID NO:31 |
| Onerl: | 96 GTTCLLSVFQVITVSSRKSRMAKLKEKAPKSVGFSVLLCWIVCMLVNIIPPMYVAGKWNY 155<br>TTCLL+VFO IT+S R S AK K K+P H+ + L W++ M + + + N |          |
| Sbjc:: | 65 CTTCLLEVFQAITLSPRSSCLAKFKHKSPHHISCAFLFLWVLYMSFSSHLLLSIIATPNL 124   |          |
| Query: | S6 TNITVNEDLGYCSGGGNKIAQTLRAMLLSFPDVLCLGLMYWVSSSMVCILHPHKQRVQH 215 T+ CS + Q++ + LL+ DV +GLM S MV +L RH+++ QH           |          |
| Sbjct: | 25 TSNDFMYVTQSCSILPMSYSMQSMFSTLLAIRDVFLIGLMVLSSGYMVALLCRHRKQAQH 184   |          |
| Onerl: | 16 IDRSDLSPRASPENRATOSILILVSTP-VSSYTL-SCLFQVCMALLDNFNSLLVNTSALM 273 + + LSP+ASPE FAT++IL+L+S+F V Y S +F D P + ++        |          |
| Sbjet: | 85 LHSTSLSPKASPEQRATRILIMIMSSFFVLHYIFDSIVFCSRTMFKDGPTFYCIQIIV 242   |          |
| Cuery: | 74 SVCFPTLSPFVLMSCDPSVYRF 295<br>S + T-SPFV + + + + F   |          |
| Sbict: | 43 SHSYATVSPFVFICTERAIVEF 264   |          |

Title: 80090, 52874, 52880, 63497, AND 33425 METHODS AND COMPOSITIONS OF HUMAN PROTEINS AND USES THEREOF Inventor: Naria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

# **Sheet 19 of 24**

|             |            |            |             |          |            |          |           |          |           |           |           |          |          |            |            |             |          |             |           |              | •            |
|-------------|------------|------------|-------------|----------|------------|----------|-----------|----------|-----------|-----------|-----------|----------|----------|------------|------------|-------------|----------|-------------|-----------|--------------|--------------|
|             |            |            |             | •        |            |          |           |          |           |           |           |          |          |            |            |             |          |             | _         | -            | SEQ ID NO:14 |
| TGC         | CAGG       | GAG        | <b>NCAG</b> | SAAC     | TYCT       | TTCC     | CCTT      | CICI     | GTGT      | CAGG.     | ATCG      | CAGA     | AAGT.    | atgt       | CCCT       | rere        | TÇAÇ     |             |           | €<br>40: 15  | SEQ ID NO:13 |
| s           | W          | L          | S           | Ś        | £          | Q        | G         | V        | ν.        | Ł         | 7         | A        | Y        |            | P          | 5           | G        | K           | D.        | 21           |              |
| AGC         | TGG        | ÇTC        | TCC         | agt      | TCC        | CAG      | GGA       | GTG      | GTX       | CTA       | ДÇА       | GCC      | TAC      | CAC        | CCC        | ĄĢC         | GGC      | AAG         | GAC       | 63           |              |
| cye<br>Ó    | à<br>ccc   | V<br>GTC   | G<br>GGG    | n<br>aac |            |          |           |          |           |           | gag<br>E. |          |          | T<br>ACC   | s<br>TCG   | s<br>agt    | R<br>CGC | r<br>Aga    | TAT       | 41<br>123    |              |
| G<br>GGC    | CYC<br>Ó   | Y<br>TAC   |             | M<br>ATG |            |          |           |          |           |           |           |          | V<br>GTT |            | e<br>Gag   | K<br>K      | P<br>CCT | P<br>CCA    | F<br>TTT  | 61<br>183    |              |
| D<br>GAT    | Ř<br>CGA   | zcy        |             |          |            |          |           |          |           |           |           |          | M<br>ATG |            | D<br>GAC   | Y<br>Tat    | ¥<br>TGG |             | E<br>GXA  | 81<br>243    |              |
| T<br>CTA    |            |            |             | r<br>Aag |            |          |           |          |           |           |           |          | D<br>GAT |            | e<br>Gag   | ere<br>v    | V<br>GTT |             | v<br>GTC  | 101<br>303   |              |
| X<br>AAA    | E<br>GAG   | g<br>CCT   | D<br>Gat    |          |            |          |           |          |           |           |           |          | XXX      |            | A<br>GCC   |             |          | 5<br>700    | n<br>Taa  | 363<br>121   |              |
| ČIC<br>T    | F<br>TTC   | G<br>GGA   | E<br>Gag    | e<br>TCT | A<br>GCT   |          |           |          |           | GYY<br>E  |           |          | V<br>GIG |            | L<br>TTA   | S<br>TCA    | T<br>ACA | L<br>TTG    | )<br>Sook | 141<br>423   |              |
| ę<br>ccc    | T<br>ACC   | о<br>243   | À<br>GÇA    | GCA      | A<br>GCA   |          |           | X<br>Aag |           |           |           | _        | V<br>GTC |            | Q<br>CAG   | T<br>ACC    | L<br>TTG | r<br>Aga    | X<br>XXA  | 161<br>493   |              |
| r<br>aaa    | N<br>AXC   | K<br>AAA   | CYC<br>CYC  | Y<br>TAC | Q<br>CAG   |          |           |          |           |           | D<br>GAC  |          |          | A<br>GCT   | cyy<br>ő   | ÇAĢ         | R<br>AGA | e<br>Gar    | s<br>TÇA  | 181<br>543   |              |
| X<br>AAA    | E.         | T<br>ACA   |             | P<br>CÇA |            |          |           |          |           |           |           |          |          | T<br>ACA   | · N<br>AAT | CVY<br>E    | N<br>AXC | K<br>Aaa    | Y<br>TÀC  | 201<br>603   |              |
| CYY         | GGA<br>GGA | r<br>Aga   | D<br>GAT    | ÇAC<br>D | e<br>Gag   | A<br>GCA | S<br>TCT  | N<br>N   | Ł<br>CTT  | GII       | Ģ<br>GGT  | E<br>GAA | E<br>Gas | K<br>AAG   | crg<br>C   | )<br>)<br>) | g<br>CCA | CCI         | e<br>Gag  | 221<br>663   |              |
| e<br>E      | T<br>ACG   | P<br>CCT   | A<br>GCC    | CCT<br>P | ርሃን<br>Έ   | T<br>ACA | Q<br>DASD | I<br>ATC | n<br>aac  | CTG       | e<br>E    | V<br>GTA | S<br>TCA | F<br>TIT   | SCC<br>SCC | e<br>Gag    | CYY<br>Ó | A<br>ÇCA    | L         | 241<br>723   |              |
| u<br>Aat    | Q<br>CAG   | aaa<br>Aaa | e<br>Gag    | s<br>agc | S<br>TCC   | K<br>AAG | S<br>DAD  | K<br>AAA | I<br>Ota  | cyc<br>O  | K<br>AAC  | S<br>AGC | X<br>X   | GGC<br>GGC | D<br>Gat   | D<br>GAT    | A<br>GCC | ACA         | L<br>TTA  | 261<br>783   |              |
| P<br>CĈT    | s<br>agt   | F<br>TTC   | r<br>Aga    | I<br>TTG | P<br>CCA   | X<br>AAA | eyc<br>D  | χχ       | yce<br>z  |           |           | YCY<br>T |          | I<br>ATT   | g<br>G     | GAC<br>D    | E<br>CTC | SCA.        | ccc       | 281<br>843   |              |
| င်္က<br>ပို | D<br>SAD   | M<br>ATG   | aag<br>K    | K<br>AAA | V<br>GTT   |          |           | L<br>TTA |           |           |           | e<br>Gag | CIC<br>T | T<br>ACT   | A<br>GCC   | CTC         | Y<br>TAT | D<br>GAT    | V<br>CTA  | 301<br>903   |              |
| L<br>TTG    | eci<br>e   | I<br>TTA   | E<br>GAG    | CL2<br>T | YYY<br>K   | CYY<br>Ö | cyr<br>ō  | XXX      | ecr<br>Y  | GIG<br>A  | X         | Y.T.C    | X<br>Aar | )<br>ACA   | r<br>aaa   | D<br>GAT    | S<br>TCT | G<br>G<br>G | CII       | 321<br>963   |              |
|             |            |            |             |          |            |          | CÍA       | TTA      | GAA       | Ċyy       |           | CAG      | agg      | AAA        | y<br>GTA   | •           |          |             |           | 341<br>1023  |              |
| I<br>ATA    | CCC        | L<br>TTG   | i<br>AIC    | F        | CAA        | r<br>aaa | CIG       | )<br>II  | \$<br>TCT | R.<br>CGA | T<br>TTA  | E<br>GAA | e<br>Gag | r<br>aga   | g<br>GGT   | TTG         | E<br>Gar | T<br>ACA    | e<br>Gaa  | 361<br>1083  |              |
| GCC         | CTC        | L<br>TTA   | r<br>CCG    | )<br>I   | CCI        | G<br>GGA | gCT<br>A  | ğ<br>ÇÇÇ | I<br>ATT  | r<br>aga  | ATC       | vyc<br>X | n<br>aat | CIT        | C<br>16C   | CXA         | E<br>Gaa | L<br>CTA    | E<br>GAA  | 381<br>1143  |              |
|             |            |            |             |          |            |          |           |          |           |           |           |          |          |            | H<br>CAT   |             |          |             |           | 401<br>1203  |              |
|             |            |            |             |          |            |          |           |          |           |           |           |          |          |            | v<br>GTG   |             |          |             |           | 421<br>1263  |              |
| GCC         | P          | CAG        | A<br>GCT    | V<br>GTC | ÇAG<br>CAG | n<br>Aat | CII       | CCY<br>2 | y<br>CC   | k<br>Aag  | K<br>Aag  | CYC<br>G | CYY<br>Ó | CTA        | ÇAG<br>Q   | A<br>GCT    | Ļ<br>TTG | n<br>aac    | CTT       | 1323<br>1323 |              |

Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

#### Sheet 20 of 24

L P D A N R D K A CTT GTC ATC CTC CTA CCT GAT GCA AAC AGG GAC ACA CTG AAG GCC CTT CTT GAA TIT CTC 1383 481 CAA AGA GTA ATA GAT AAT AAA GAA AAA AAT AAA ATG ACA GTC ATG AAT GTA GCA ATG GTC 1443 S S E 501 G L X L ATG GCC CCG AAT CTC TIT ATG TGT CAT GCA TTG GGA TTG AAG TCC AGT GAA CAG CGA GAA 1503 м L TIT GTA ATG GCA GCT GGG ACA GCA AAT ACC ATG CAC TTA TIG ATT AAG TAC CAA MA CTT 1563 L W T I F K F I V N Q V R K Q N T E N H 541 CTG TGG ACA ATT CCC AAG TTT ATT GTA AAC CAA GTG AGG AAG CAA AAC ACG GAA AAT CAT 1623 KKDKRAMKKLLKKM מ AND AND GAT AND AGA GCC ATG AND AND TTG CTG AND AND ATG GCT TAT GAC CGA GAR AND 1683 581 TAT GAN ANG CAN GAT ANG AGE ACH ANT GAT GCT GAC GTT CCT CAG GGA GTG ATT CGA GTG 1743 607 Ŧ. CAN GCT CCC CAT CTT TCG AAA GTT TCC ATG GCA ATA CAG CTA ACT GAA GAA CTA AAA GCC 1803 AGT GAT GEA CIT GCC AGG TIT CTC AGC CAR GAA AGT GGG GIT GCC CAG ACT CTC AAG AAA 1863 641 E Æ C GGA GAA GIT TIT TIG TAT GAA ATT GGA GGA AAT ATT GGG GAA CGC TGC CIT GAT GAT GAC ACT TAG ANG GAT THA TAT CAS CIT AND CON ANT GOT GAG TGG GTT ATA ANG TCA ANS 1983 664 CCA TTG TAG 1992 ←SEQ ID NO:15 ↑

aagacttaacaagctgcagataaccatgtggact<del>tctgtcataatt</del>cttgctgagtcaagagtcaacatgtaaataaaaaatg gcaggactcatattattcagttgtacccaagtatttaaaaatgctctcttaagccttaaaaagtcatagatttgtgtct actitotoccastiticatatoctctotoaaatotoccasaiototoccatatotottitititaatatototoaa CCCTATCACCGACCAAGAAAATAGGACTGTCAGAAGCTGCCAGTTATTACTGAACCATTAAATACTTATATACTAAGAA TAXXTXXXTXTACCCATGTGAXXTXXTXXTXATTGGATTATGGATAXGXGAGAGAGTGAXAGCCAXAGCCACTTCCTGTCTAC TGTACTCTTCTLAATGGAATTTTALAAGTCATAGCTGGCTTTACGTGTTGTCATTATTAGCATTATAAATATGCATGAT CTTGAAAGTACTATTCCCAGGGATTTTAATGCACAAACCATATTGTGACAAGAGATGAGCCTCTGTACTGTAAAAAAAGA acgstgttcatgatacytttagtagtactttaggaaaaactacacatttaggaagctcttgatgtctataatga GGGGAATGCTGTTAATGAGAACAGTCAEAAATTTTTAGCATATAATTACAASAACAGCCTGTGGATATGATCACTTAAA  Title: 80090, 52874, 52880, 63497, AND 33425 METHODS AND COMPOSITIONS OF HUMAN PROTEINS AND USES THEREOF Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

**Sheet 21 of 24** 

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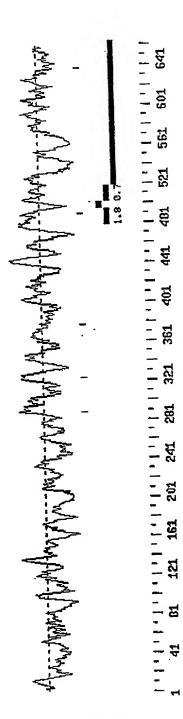
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Application No.: To Be Assigned Docket No.: 381552004400

**Sheet 22 of 24** 



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Title: 80090, 52874, 52880, 63497, AND 33425 METHODS AND COMPOSITIONS OF HUMAN PROTEINS AND USES THEREOF Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

**Sheet 23 of 24** 

\*->PiivekcveyleklYPLaerGlqeEGIYRvsGsa....srvkeLrea seq 10 MG:32 rGl++EG+ R++G a + +++++eL ++ P+i +k+++ Ie+ 33425 343 PLIFOKLISRIEE-----RGLETEGLLRIPGAAiTikNLCQELEAK 383 fdkdgapdslelsekewfDvhvvaglLKlYLReLPePLipydlyeefira h = a+lLKl++ReLP+PL++++ff ++ + + e+ ++ 384 FYEG--TFNWESVKQ-----HDAASLLKLFIRELPQPLLSVEYLKAFQAV 426 33425 akeqiedpderlralkellsSkLPrahynTLryLltHLnrvaeiyiensa + ++ ++1+a1+ 1+ +LE+8+++TL++L1++L++V+ 33425 427 QN--LPTKKQQLQALNLLVI-LLPDANRDTLKALLEFLQRVID----NKE 469 vNkMnarNLAivFgPtLlrppdkesnd<-\* +NkM++ N A v +P+L+ 470 KNKMTVMNVAMVMAPNLFMCHA--LGL 494 33425

FIG. 26

516\_IKYQKLLWTIPKFIVNQVRKQNTENHXXXXX--XXXXXXXXXXYDREK------YEKQ 565 Query: +KYQK+LW +P F++ QVR+ N +RÉ +K 1 LKYQKTLWKVPSFLITQVRRMNEATMLLKKQLPSVRKLLRRKTLERETASPKTSKVLQKS 60 SEQ ID NO:33 Sbjct: 566 DKSTNDADVPQGVIRVQAPHLSKVSMAIQLTEELKASDVLARF 608 Query: + +DVP+GVIRV AP LSKVSMAIQL + KA D+LA+F 61 PSARRMSDVPEGVIRVHAPLLSKVSMAIQLNNQTKAKDILAKF 103

FIG. 27

390 NWESVKQ-HDAASLLKLFIRELPQPLLSVE----YLKAFQA-VQNLPTKKXXXXXXXX 443 Query:

NE + H A LLK + RELP+PLL+ E +++A +A V +

Sbjct: 16 NMEEYEDVHTVAGLLKQYFRELPEPILITYELYEEFIEAAKAQVSDEDERMEALEMLKELI 75 SE ID NO:34

444 XXXPDANRDTLKALLEFLQRVIDNKEKNKMTVMNVAMVMAPNL 486 Query: P+ANR+TL+ LL+ L RV + E+NKM N+A+V P L

Sbjct: 76 KLLPEANRETLRYLLKHLSRVAQHSEENKMNAQNLAVVFGPTL 118

Title: 80090, 52874, 52880, 63497, AND 33425 METHODS AND COMPOSITIONS OF HUMAN PROTEINS AND USES THEREOF Inventor: Maria A. GLUCKSMANN and Rachel MEYERS

Application No.: To Be Assigned Docket No.: 381552004400

Sheet 24 of 24

Query: 399 AASLLKLFIRELPQPLLSVEYLKAFQAVQNLPTKKXXXXXXXXXXXXXXXXXPDANRDTLKALL 458

A SLLKLF+RELP+PLL+ + + F+ V + P P NR L +L

Sbjct: 96 ACSLLKLFLRELPEPLLTTDLVARFEEVASHPKVTTQQAELQQLLEQLPKCNRTLLAWVL 155 SEQ ID NO:35

Query: 459 EFLQRVIDNKEKNKMTVMNVAMVMAPNLFM 488

VI + NK+ ++AM+++P L M

Sbjct: 156 LHFDAVIQQERHNKLNAQSLAMLLSPTLQM 185

(N